

BLM HUCKLEBERRY CAMPGROUND (PWSNO 1400084) SOURCE WATER ASSESSMENT REPORT

March 18, 2003



State of Idaho Department of Environmental Quality

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SOURCE WATER ASSESSMENT FOR BLM HUCKLEBERRY CAMPGROUND

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like BLM Huckleberry Campground, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for BLM Huckleberry Campground* describes factors used to assess susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use inside the delineation boundaries, well site characteristics, potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for BLM Huckleberry Campground is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction.

The BLM Huckleberry Campground water system serves a 33 unit recreational facility on the St. Joe River about 30 road miles east of St. Maries, Idaho. Drinking water is supplied by a 150-foot deep well, constructed in 1988, that is located 200 feet south of the river. The 8-inch steel casing extends a foot above a concrete pad surrounding the wellhead. It terminates 78 feet below ground at the interface between coarse, water bearing alluvial material and shale bedrock. A 6-inch well screen was set from 68 to 78 feet. The cement grout surface seal is 20 feet deep. The static water level is 11 feet below ground. No deficiencies in wellhead or surface seal maintenance were noted during a sanitary survey of the system in June 2002. Although the well is located in the flood plain of the St. Joe River and taps into a shallow alluvial aquifer, microscopic particulate analyses in May and September 2001 had scores of zero, indicating a low risk of surface water influence.

Well Site Characteristics.

Hydrologic sensitivity scores reflect natural geologic conditions at the well site and in the recharge zone. Information for this part of the analysis is derived from individual well logs and from the soil drainage classification inside the delineation boundaries. 6 points out of 6 points possible were marked against the BLM Huckleberry Campground well in this portion of the analysis.

Soils covering the recharge zone delineated for BLM Huckleberry Campground are moderately well drained to well drained. Soils in this classification are less protective of the ground water than soils that drain slowly. The soil above the water table at the well site is a mixture of gravel, cobble and boulders. Water was first encountered 63 feet below the surface. With the pump set at 15 feet, air testing at the time of drilling produced 140 gallons per minute over a 10 hour period.

Potential Contaminant Inventory.

Land inside the protection zone for the BLM Huckleberry Campground is mostly undeveloped forest. Potential sources of contamination inside the 1000-foot radius delineated around the well include surface water, a road, and the campground itself. Microbial contamination is the primary concern with surface water. Dust abatement and weed control chemicals are the potential contaminants most likely to be associated with local roads. Campgrounds can be sources of septage, gasoline, and household hazardous waste from recreational vehicles.

Water Quality History.

BLM Huckleberry Campground well has a good water quality history. The water system is tested monthly during its operating season for total coliform bacteria. In the period from April 1998 through October 2002, all total coliform tests were negative. The campground chlorinates the water before it enters the distribution system. Annual tests for nitrates show concentrations ranging from undetectable levels to 0.14 mg/l. The Maximum Contaminant Level (MCL) for nitrate is 10 mg/l. In addition to the required water quality testing, the well has been monitored annually since 1996 as part of the Statewide Ground Water Monitoring Program conducted by the Idaho Department of Water Resources in conjunction with the U.S. Geological Survey. All pesticide and volatile organic chemical tests have been negative. All primary and secondary inorganic chemical constituents are either well below the MCL or, in most cases, not detected.

Susceptibility to Contamination.

An analysis of the BLM Huckleberry Campground well, incorporating information from the public water system file, and the potential contaminant inventory, ranked the well moderately susceptible to all classes of regulated contaminants. Risk factors related to local geology added the most points to the final susceptibility scores. The complete ground water susceptibility work sheet for your system is on page 6 of this report. Formulas used to compute final scores and susceptibility rankings are at the bottom of the worksheet.

Source Water Protection.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

BLM Huckleberry Campground already has some significant drinking water protection measures in place. The system is well run and in compliance with the *Idaho Rules for Public Drinking Water Systems*. The consistent monitoring of the campground's water supply provides BLM with ongoing information about the system's performance. All of the distribution system hose bibs are fitted with atmospheric vacuum breakers to prevent back siphonage into the water lines.

There are a number of voluntary well protection measures BLM should also consider for the Huckleberry Campground. It might be helpful to cover the wellhead and possibly fence the area around it to keep people, pets and vehicles out of the sanitary setback zone. Training for inexperienced maintenance personnel and campground hosts should emphasize keeping the pumphouse and 50-foot radius around the well free from the use or storage of campground maintenance chemicals that are potential water contaminants. This is especially important at the Huckleberry Campground because the pump house floor drain sump is only 8 feet from the well head where a permeable soil structure increases the ground water's vulnerability to contamination.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance.

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request help with drinking water protection planning.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

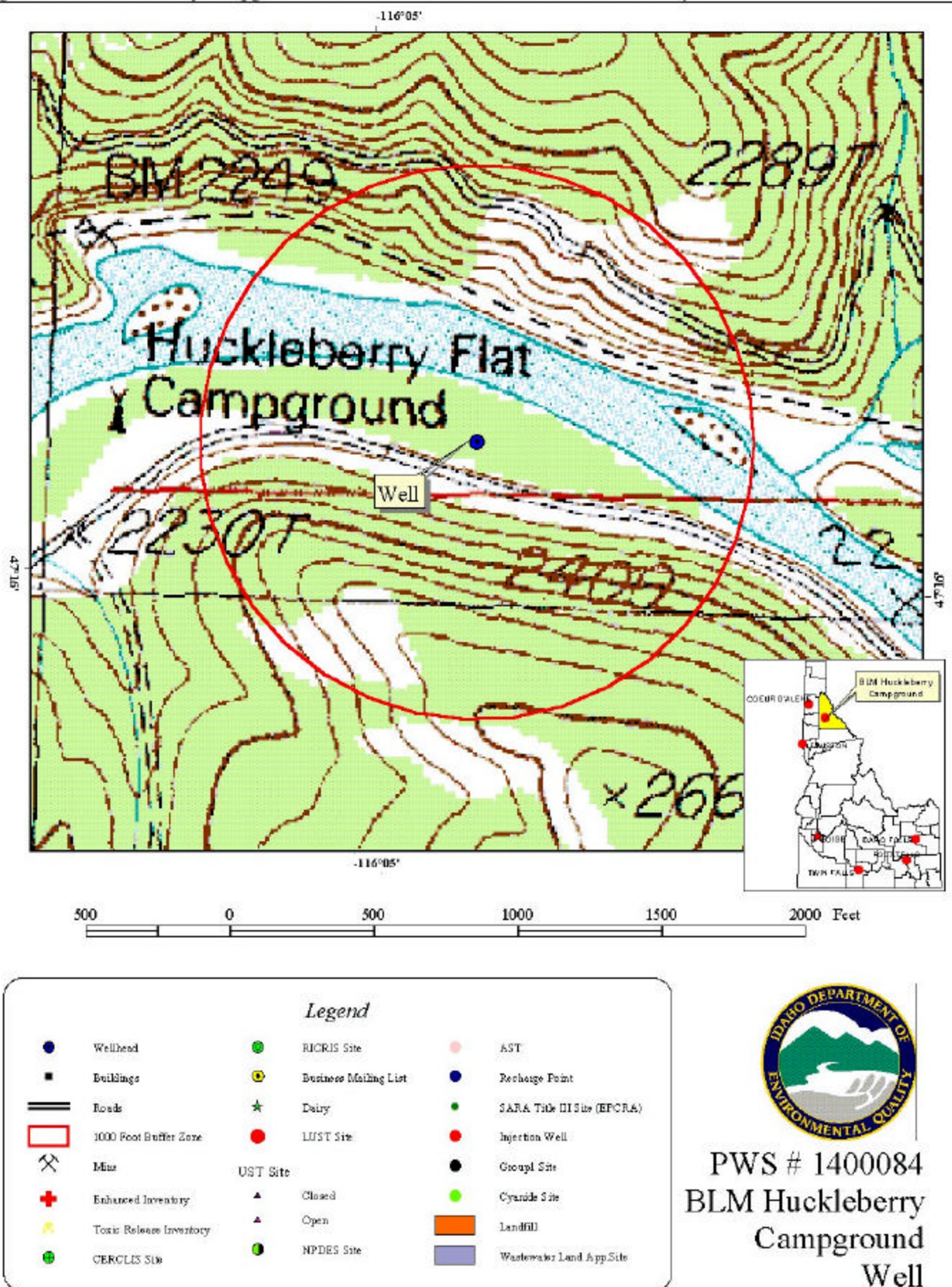
DEQ Website: www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper of the Idaho Rural Water Association (208) 343-7001 for assistance with drinking water protection strategies.

Idaho Rural Water Association Website: www.idahoruralwater.com

Home * A * Syst Website: www.uwex.edu/homeasyst

Figure 1. BLM Huckleberry Campground Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name : **BLM HUCKLEBERRY CAMPGROUND** Well # : **WELL #1**
Public Water System Number : **1400084** 2/19/03 8:18:36 AM

1. System Construction		SCORE			
Drill Date	9/9/88				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2002			
Well meets IDWR construction standards	YES	0			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		4			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	cobble and gravel	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		6			
3. Potential Contaminant / Land Use		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use	WOODLAND	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	NO	NO	NO	NO	NO
Potential Contaminant Source/Land Use Score		0	0	0	0
Potential Contaminant / Land Use - 1000-Foot Radius					
Contaminant sources present (Number of Sources)	YES. Campground	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
1000-Foot Radius contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use 1000-Foot Radius	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius		3	3	3	2
Cumulative Potential Contaminant / Land Use Score		3	3	3	2
4. Final Susceptibility Source Score		11	11	11	11
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ? Superfund? is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.